

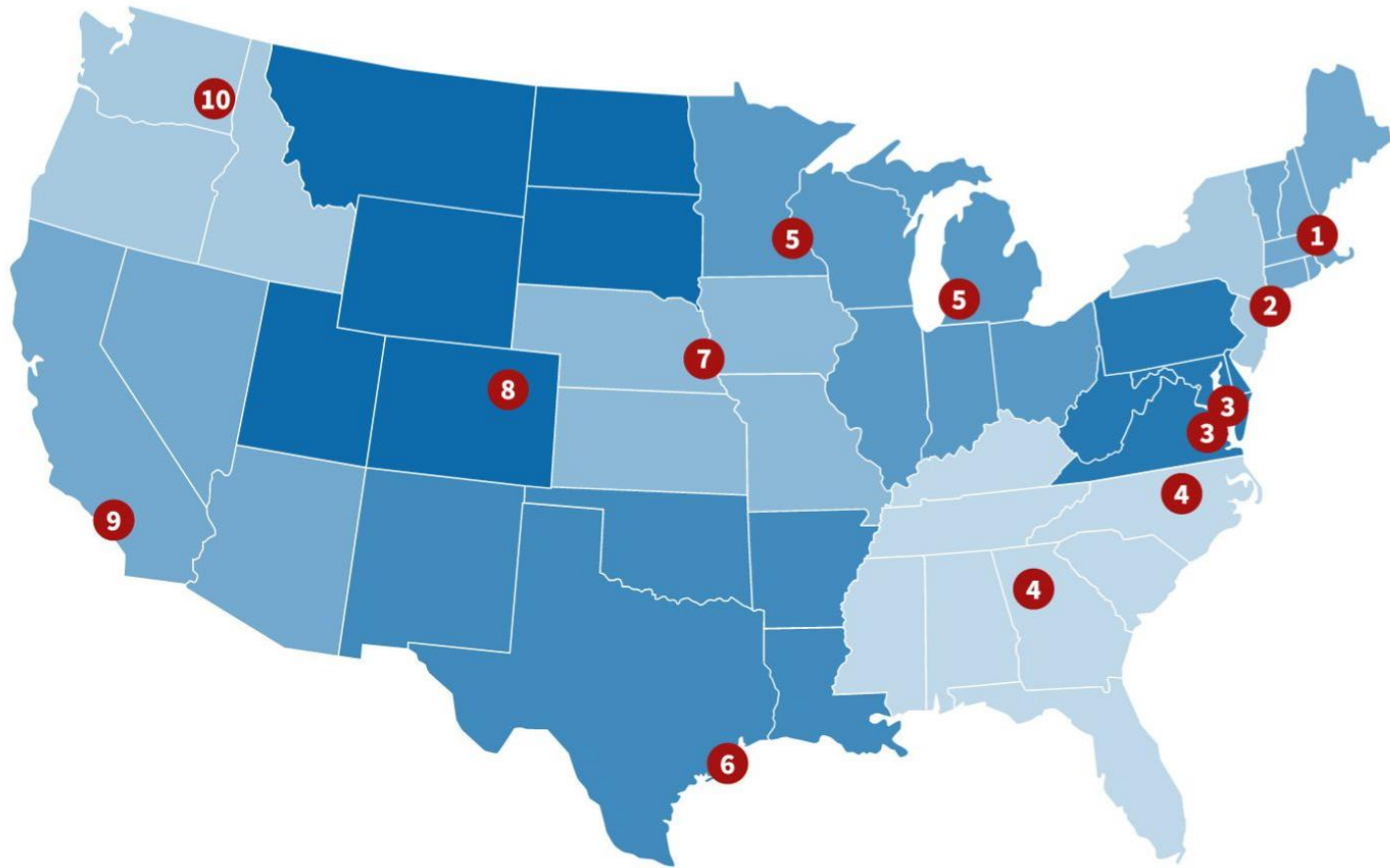
Estimating PPE Needs

USING THE DASH TOOL FOR
SPECIAL PATHOGEN READINESS

NETEC: A Partnership for Preparedness

Setting the gold standard for special pathogen preparedness and response across health systems in the U.S. with the goals of driving best practices, closing knowledge gaps, and developing innovative resources.

Regional Emerging Special Pathogens Treatment Centers



- 1 CT, ME, MA, NH, RI, VT**
[Massachusetts General Hospital](#)
- 2 NJ, NY, PR, VI**
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- 3 DC, DE, MD, PA, VA, WV**
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[Medstar Washington Hospital Center / Children's National](#)
- 4 AL, FL, GA, KY, MS, NC, SC, TN**
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- 10 AK, ID, OR, WA**
[Providence Sacred Heart Medical Center & Children's Hospital](#)

[Locate your regional contacts](#), including physician, nursing, pediatric, and operations leadership, as well as local and state health partners.

Areas of Focus

CONSULTATION & ASSESSMENT

Empower hospitals to gauge their readiness using **self-assessment**

Provide direct feedback to hospitals via **on-site assessment**

Provide **on-site and remote guidance**

Provide **emergency on-call mobilization**

EDUCATION & TRAINING

Deliver didactic and hands-on simulation training via **in-person courses**

Provide self-paced education through **online trainings**

Compile an **online repository** of tools and resources

Develop customizable **exercise templates** based on the HSEEP model

RESEARCH NETWORK

Build a **central IRB process** for rapid implementation of clinical research protocols

Develop **policies, procedures, and data capture tools** to facilitate research

Create the infrastructure for a **specimen biorepository**

INTERNATIONAL PARTNERSHIPS

Organize, plan, and implement **strategic international collaborations**

Strengthen **relationships** with global special pathogens programs

Establish mechanisms to **facilitate sharing of best practices** and knowledge among special pathogens programs

← Cross cutting, supportive activities →

Overview

Welcome:  Jill Morgan, BSN, RN

➤ **Overview of PPE for Special Pathogens**  Jill Morgan, BSN, RN

➤ **DASH Tool Overview**  John Hick, MD

➤ **NSPS Level 2 Scenarios**  Sarah Haroth, MSN, RN, PHN

➤ **NSPS Level 3 Scenarios**  Brooke Henriksen, BSN, RN, CCRN

Questions and Answers

NETEC Resources:  Jill Morgan, BSN, RN

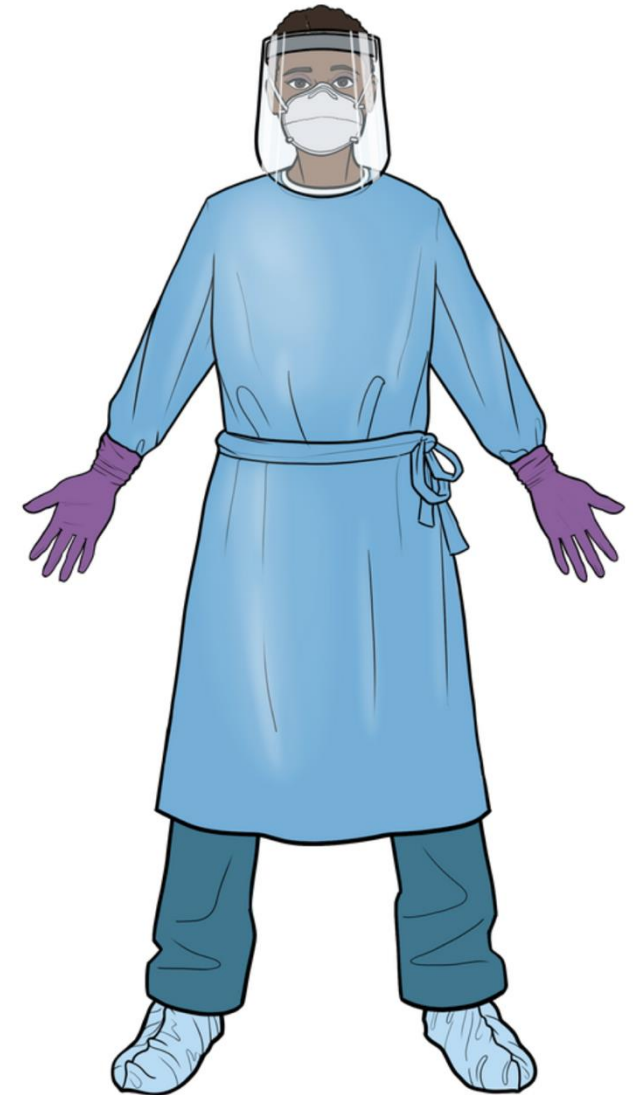
Overview of PPE for Special Pathogens

Jill Morgan, BSN, RN

BIOCONTAINMENT
UNIT

➤ Understand transmission routes, risk, and appropriate protection levels.

- ✓ Choose items.
- ✓ Develop ensembles.
- ✓ Create donning and doffing processes.
- ✓ Test.
- ✓ Train.



How many staff members will need PPE?
How many staff members *at one time*?

How many patients? What *kind* of patient?

How long will staff remain in PPE?
How many donning and doffing events per day?

PPE needs by role:

- Providers
- Nursing
- Lab
- EVS
- Respiratory
- Diagnostics



➔ **TJC Standard IC.07.01.01: The hospital develops and implements protocols for high-consequence infectious diseases or special pathogens.**

- Required personal protective equipment and proper donning and doffing techniques.
- Infection control procedures to support continued and safe provision of care while the patient is in isolation and to reduce exposure among staff, patients, and visitors using the hierarchy of controls.



High-Level Capabilities Comparison

The table is intended to provide a high-level sample of quantifiable differences across levels and does not include all minimum capabilities.

Capabilities	Level 1	Level 2	Level 3
Care Duration	Duration of illness	Duration of illness	12-36 Hours
Capacity for VHF, airborne	2 VHFs 10 airborne	1-2 VHFs 4 airborne	1+ isolation space
PPE Supply	2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	1-2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	3 VHF cases for 12-36 hours (before resupply)
Exercises	Quarterly	At least twice annually	At least once annually for mystery patient exercise
PPE Training	Quarterly	At least 2x annually	At least 1x annually
Skills Training	Quarterly	At least annually	--
Lab Testing Ability	Clinical lab testing	Clinical lab testing	Point-of-care onsite clinical lab testing



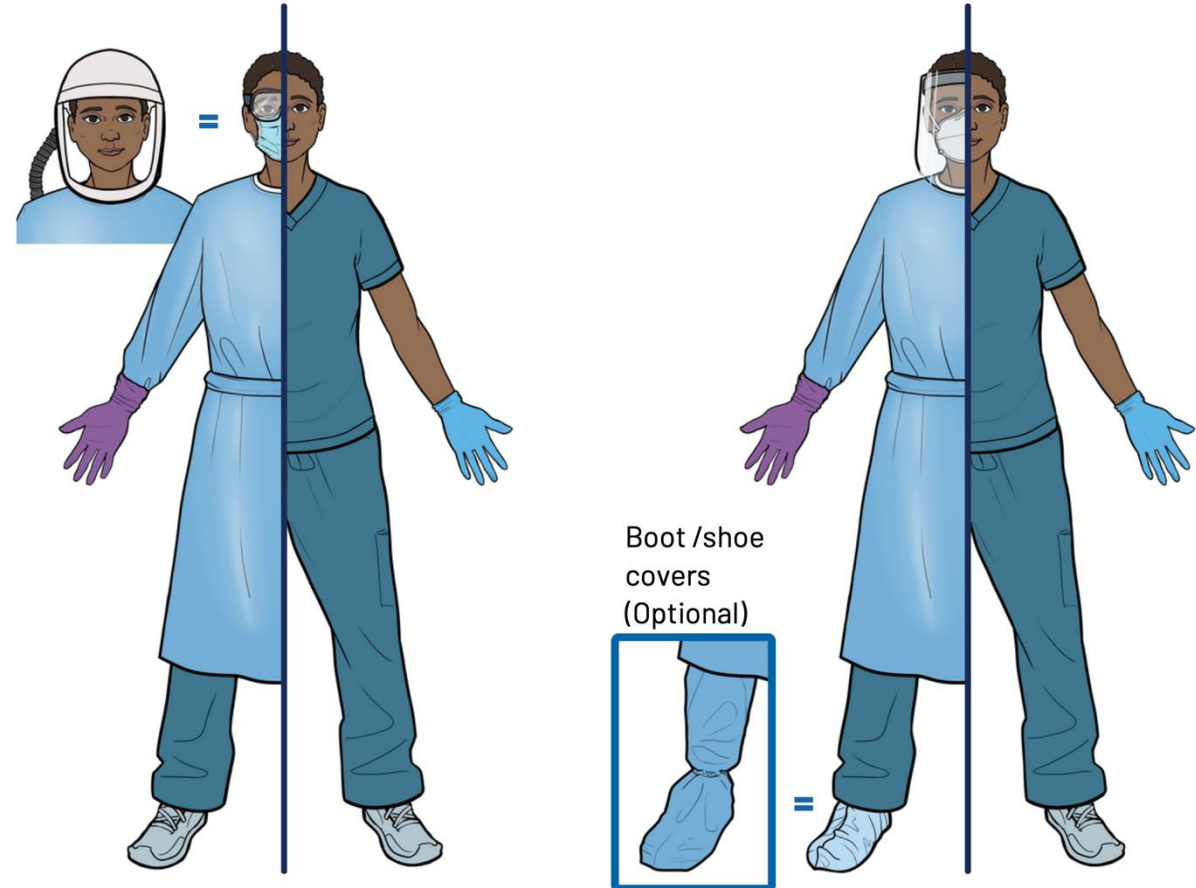
- NIOSH Approved N95® or elastomeric respirator
- Fluid-resistant head & neck cover
- Full face shield
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe or boot covers
- 2 pair of gloves, outer extended cuff

- PAPR (external motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe/boot covers
- 2-pair of gloves, outer pair extended cuff

- PAPR (internal motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe boot covers
- 2 pair of gloves, outer extended cuff

For Dry / Suspect VHF:

- Eye protection: Full face shield, integrated face shield of powered respirator, or tight-fitting goggles
- Nose and mouth coverage: Medical mask or optional respiratory protection with a NIOSH-Approved N95[®], elastomeric, or powered air-purifying respirator (PAPR)
- Torso/Body coverage: Fluid-resistant gown (Level 3 or 4) or coverall
- Gloves: 2 pairs of gloves, outer pair with extended cuffs



Novel Respiratory Pathogens PPE:

- Respiratory protection with a NIOSH-Approved N95[®], elastomeric, or PAPR (powered air-purifying respirator)
- Eye protection with a full-face shield or tight-fitting goggles
- Isolation gown
- Gloves



DASH Tool Overview

John Hick, MD

BIOCONTAINMENT
UNIT



Estimating PPE Needs: Using the DASH Tool for Special Pathogen Readiness

John L. Hick, MD – Senior Editor, ASPR TRACIE

July 22, 2025



Unclassified

ASPR TRACIE: Three Domains



- Self-service collection of audience-tailored materials
- Subject-specific, SME-reviewed “Topic Collections”
- Unpublished and SME peer-reviewed materials highlighting real-life tools and experiences



asprtracie.hhs.gov



- Personalized support and responses to requests for information and technical assistance
- Accessible by toll-free number (1844-5-TRACIE), email (askasprtracie@hhs.gov), or web form (ASPRtracie.hhs.gov)



1-844-5-TRACIE



- Area for password-protected discussion among vetted users in near real-time
- Ability to support chats and the peer-to-peer exchange of user-developed templates, plans, and other materials



askasprtracie@hhs.gov

DASH Background & Purpose

- Created in response to technical assistance requests.
- Addressed a gap in quantifying supplies needed by hospitals for their initial response to a disaster.
- Developed in collaboration with Healthcare Ready, the Region VII Disaster Health Response Ecosystem, and the Health Industry Distributors Association.



Welcome to the Disaster Available Supplies in Hospitals (DASH) Tool

Disaster Available Supplies in Hospitals (DASH) is an interactive tool designed by ASPR TRACIE, with support from Healthcare Ready, that can help hospital emergency planners and supply chain staff estimate supplies that may need to be immediately available during various mass casualty incidents (MCI) and infectious disease emergencies based on hospital characteristics. The DASH Tool recommends average par levels for specific supplies that acute care hospitals may need to have on hand to respond to a disaster in their community until resupplied. Recommendations are based on user inputs about the size of the hospital, risks in the community, regional role/designation of the hospital, and other factors.

What is DASH?

- Online, interactive tool built on the Tableau platform.
- Tool helps mitigate hospital supply shortages and requests during emergencies by pre-identifying likely-needed products and quantities.
- Recommendations are based on user inputs about the hospital and the community it serves.
- Preparedness tool – not intended to be used during response to an incident.

UPDATED URL:

<https://asprtracie.hhs.gov/dash-tool>

Four Modules

Hospital Pharmacy Module

Estimates supplies of medications a hospital should have in its pharmacy to meet seriously injured patient needs for 48 hours following an MCI.

USE THE MODULE

Personal Protective Equipment Module

Estimates minimum personal protective equipment (PPE) needed by hospital personnel managing patients suspected or known to be infected with a special pathogen.

USE THE MODULE

Burn Supply Module

Estimates supplies needed to care for critical burn patients with an average 40% burn surface area for the first 48 hours after a burn incident.

USE THE MODULE

Trauma Supply Module

Estimates supplies needed to care for seriously injured trauma patients for the first 48 hours after an MCI.

USE THE MODULE

Hospital Pharmacy Module

The DASH Hospital Pharmacy Module (HPM) is intended to provide estimates of pharmaceuticals and intravenous fluids that may be required at a facility for the first 48 hours after a mass casualty incident occurs. The HPM should be completed to complement both the Burn and Trauma Supply Modules. Based on hospital characteristics, the module will offer baseline inventories for categories (e.g., analgesia, antibiotics). The user will input inventory information for common drug formulations in stock within these categories and immediately determine whether the hospital has adequate or inadequate stocks of medications in that category. Dosing is based on adult (i.e., higher) requirements, though pediatric formulations are included where available.

The DASH HPM is not prescriptive nor definitive. It is intended as a starting point for facility planners to estimate the minimum quantities that may be needed based upon the role the hospital has in the community. The module is meant to be considered in conjunction with other planning tools, resources, information, and facility and community-wide preparedness efforts. It is not intended as a clinical tool and should be used for pre-incident planning and NOT during an incident.

For detailed information on the purpose of the DASH HPM, related planning considerations, and additional resources, click on the "HPM Methodology (PDF)" button. For detailed instructions, click on the "HPM Instructions (PDF)" button. Most users will find it helpful to have the HPM Instructions open in a separate browser window to follow along as they navigate through the module.

HPM Instructions (PDF)

HPM Methodology (PDF)

NOTE: User inputs cannot be saved in the DASH Tool. Please remember to frequently download or share as described in the Instructions to save your inputs as you work in the module.

Begin by entering your hospital's characteristics on the Initial Assessment screen below. Then click on the "Go to Index" button to navigate to any Individual Drug Category where you will enter your inventory.

Please fill out all the boxes below with information regarding your facility.

Trauma Level
2

Emergency Department Beds / Rooms
50

Initial Assessment

The graph below displays the amount per drug category to have on hand in the event of an emergency:

Drug Category

1.1 Analgesia injectable	20,000
1.2 Opioid oral	12,000
1.3 Non-opioid oral	12,000
2.1 Injectable	15,000
2.2 Oral	1,200

Go to Index

Begin by entering your hospital's characteristics on the Initial Assessment screen below. Then click on the "Go to Index" button to navigate to any Individual Drug Category where you will enter your inventory.

Hospital Inventory

Please input the number of available pharmaceuticals below:
(Pharmaceuticals marked with * are controlled substances)

Alprazolam 1mg tab*
150

Alprazolam 2mg tab*
100

Clonazepam 1mg tab*
165

Clonazepam 2mg tab*
90

Diazepam 5mg tab*
115

Diazepam 10mg tab*
40

Lorazepam 0.5mg tab*
175

Lorazepam 1mg tab*
0

Lorazepam 2mg tab*
110

Lorazepam 2mg/ml Oral Solution 30ml*
0

Midazolam 2mg/ml oral sol Bulk 118ml*
0

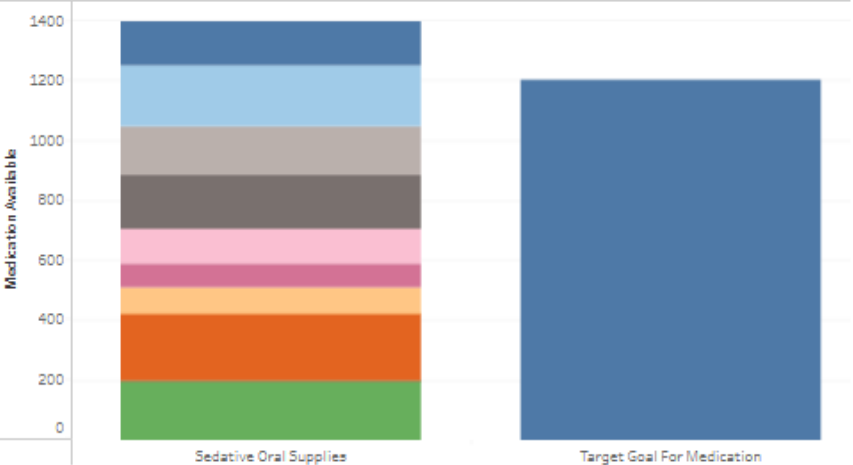
Midazolam 10mg/5ml oral sol UD 5ml*
40

2.2 Sedative Oral Inventory

Drug	Dose Equivalency Value	Sedative Oral Inventory (mg)
Alprazolam 1mg tab	1	150
Alprazolam 2mg tab	2	200
Clonazepam 1mg tab	1	165
Clonazepam 2mg tab	2	180
Diazepam 5mg tab	1	115
Diazepam 10mg tab	2	80
Lorazepam 0.5mg tab	0.5	88
Lorazepam 1mg tab	1	0
Lorazepam 2mg tab	2	220
Lorazepam 2mg/ml Oral Solution 30ml	60	0
Midazolam 2mg/ml oral sol Bulk 118ml	118	0
Midazolam 10mg/5ml oral sol UD 5ml	5	200
Grand Total		1,398

Grand Total To Meet Requisite Needs: 1,200 m

Difference Between Present Inventory and Goal: 198 m



Calculation Assumptions

Burn Supply Module

The DASH Burn Supply Module (BSM) is intended to help hospitals plan for a large number of burn patients presenting to their facility following a mass casualty incident. Based on user inputs about hospital characteristics, the module estimates supplies needed for initial dressings, topical treatments, and patient care.

While you may wish to complete this module alone, it only computes estimates for topicals, dressings, and other burn-specific items. Because burn patients will need elements from both the Hospital Pharmacy and Trauma Supply Modules (e.g., fluids, analgesia, escharotomy supplies), we encourage you to complete the BSM as a complement to those modules.

The DASH BSM is not proscriptive or definitive. It is intended as a starting point for facility planners to estimate the minimum quantities of supplies that may be needed based upon the role the hospital has in the community. The module is meant to be considered in conjunction with other planning tools, resources, information, and facility and community-wide preparedness efforts. It not intended as a clinical tool and should be used for pre-incident planning and NOT during an incident.

For detailed information on the purpose of the DASH BSM, related planning considerations, and additional resources, click on the "BSM Methodology (PDF)" button. For detailed instructions, click on the "BSM Instructions (PDF)" button. Most users will find it helpful to have the BSM Instructions open in a separate browser window to follow along as they navigate through the module.

[BSM Instructions \(PDF\)](#)

[BSM Methodology \(PDF\)](#)

NOTE: User inputs cannot be saved in the DASH Tool. Please remember to frequently download or share as described in the Instructions to save your inputs as you work in the module.

Please answer the following questions about your hospital's characteristics. Then click on the "Go to Topicals" button to continue through the module.

What is your Hospital Trauma Level?

1

Emergency Department Beds / Rooms

100

Please input the amount of each topical in your inventory below to compare your on hand supplies with expected supplies.

Bacitracin (1oz)
30

Bacitracin (4oz)
10

Bacitracin (16oz)
6

Mafenide Acetate Cream 2oz
45

Mafenide Acetate Cream 4oz
8

Mafenide Acetate Cream 16oz
6

Silver Sulfadiazine 1% (50g)
0

Silver Sulfadiazine 1% (85g)
40

Silver Sulfadiazine 1% (400g)
14

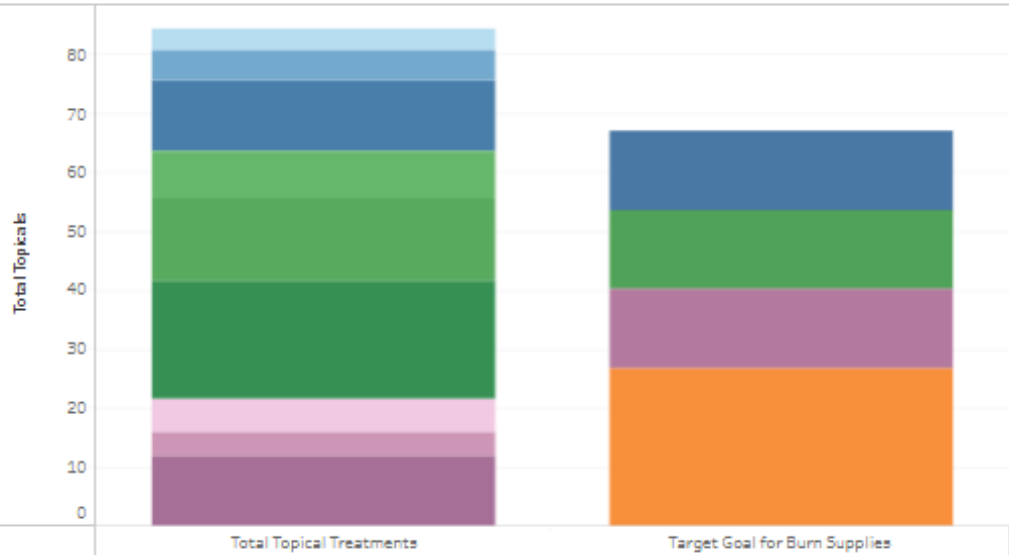
Silver Sulfadiazine 1% (1000g)
10

Topicals Inventory

Product1	Treatment Contribution	Total Topical Treatments
Bacitracin 1oz	0.13	3.75
Bacitracin 4oz	0.50	5
Bacitracin 16oz	2.00	12
Mafenide Acetate Cream 2oz	0.13	5.625
Mafenide Acetate Cream 4oz	0.50	4
Mafenide Acetate Cream 16oz	2.00	12
Silver sulfadiazine 1% (Silvadene) 50g	0.11	0
Silver sulfadiazine 1% (Silvadene) 85g	0.20	8
Silver sulfadiazine 1% (Silvadene) 400g	1.00	14
Silver sulfadiazine 1% (Silvadene) 1000g	2.00	20

Treatments to Meet Requisite Needs: 67 treatments

Difference Between Present Inventory and Goal: 17.38 treatments



Trauma Supply Module

The DASH Trauma Supply Module (TSM) is intended to help hospitals estimate supplies needed to care for seriously injured trauma patients in the first 48 hours following a mass casualty incident. Estimates of needed supplies are based on the hospital's trauma level and adjusted for factors including the number of emergency department beds, the hospital's role in the community, and a facility's potential isolation following a natural disaster. We encourage you to also complete the complementary Hospital Pharmacy Module to determine pharmaceutical needs and the Burn Supply Module to calculate dressings and topical treatments that may be needed by trauma patients. You may not have all the trauma supplies you need if you do not complete all three modules.

The DASH TSM is not proscriptive or definitive. It is intended as a starting point for facility planners to estimate the minimum quantities of supplies that may be needed based upon the role the hospital has in the community. The module is meant to be considered in conjunction with other planning tools, resources, information, and facility and community-wide preparedness efforts. It is not intended as a clinical tool and should be used for pre-incident planning and NOT during an incident.

For detailed information on the purpose of the DASH TSM, related planning considerations, and additional resources, click on the "TSM Methodology (PDF)" button. For detailed instructions, click on the "TSM Instructions (PDF)" button. Most users will find it helpful to have the TSM Instructions open in a separate browser window to follow along as they navigate through the module.

TSM Instructions (PDF)

TSM Methodology (PDF)

NOTE: User inputs cannot be saved in the DASH Tool. Please remember to frequently download or share as described in the instructions to save your inputs as you work in the module.

Please answer the following questions about your hospital's characteristics. Then click on the "Go to Airway / Respiratory Supplies" button to continue through the module.

Hospital Trauma Level

3

Emergency Department Beds

18

Is your hospital the primary regional receiving center for burn or trauma patients?

No

Are natural disasters likely to isolate the hospital for days or longer?

Yes

Based on your inputs, the TSM is preparing your hospital for 40 seriously injured patients.

Wound Care / Hemorrhage Control Inventory

Item	Number/Patie..	Total Seriously Injured Patients	Quantity of Item Needed
ABD Pads / trauma dressings	0.5	40	20
Adhesive / First Aid Tape 2"	0.5	40	20
Adhesive bandage - large	2	40	80
Adhesive bandage - small	2	40	80
Dressings/Sponges, sterile 4x4	10	40	400
Eye face shield	0.2	40	8
Foam Tape 3"	0.25	40	10
Gauze ribbon	0.2	40	8
Laparotomy pad (e.g. 4x18in)	Trauma Level	40	200
Nasal tampons	0.2	40	8
Paper Tape 1"	0.75	40	30
Self Adhering Dressing (tegaderm) 4x4 or similar	0.5	40	20
Steri-strips 1/4 inch	0.5	40	20
Tourniquet arterial	0.5	40	20
Transpore/microspore tape	2	40	80

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What Should Users Do With Their Results?

- Compare recommendations to actual hospital inventory and identify gaps.
- Discuss results with community partners and supply chain partners to:
 - Enhance awareness of what supplies are available in the community.
 - Identify gaps that may be filled through local/regional caches/stockpiles.
 - Establish the process for requesting outside resources and the triggers to do so.
 - Understand product availability, potential substitutions/alternatives, resupply lead times, and other supply chain considerations.
- Adjust plans based on hospital's hazard vulnerability analysis and knowledge of available healthcare assets and barriers to obtaining additional resources.

Additional DASH Resources

- DASH Website: <https://asprtracie.hhs.gov/dash-tool>
- DASH Introductory Video: <https://youtu.be/mm7ILyLCkYQ>
- FAQs: <https://files.asprtracie.hhs.gov/documents/dash-tool-faqs.pdf>
- Demonstration of the DASH Tool:
<https://files.asprtracie.hhs.gov/documents/disaster-available-supplies-in-hospitals-dash-demo.pdf>
- Introduction to the DASH Tool Webinar Recording:
<https://files.asprtracie.hhs.gov/documents/aspr-tracie-disaster-available-supplies-in-hospitals-dash-webinar-ppt.pdf>

Related ASPR TRACIE Resources

- Infectious Diseases Resources Page: <https://asprtracie.hhs.gov/infectious-disease>
- Medical Product Shortages and Scarce Resources Page: <https://asprtracie.hhs.gov/scarce-resources>





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NSPS Level 2 Scenarios

Sarah Haroth, MSN, RN, PHN

BIOCONTAINMENT
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HHS

U.S. Department of Health
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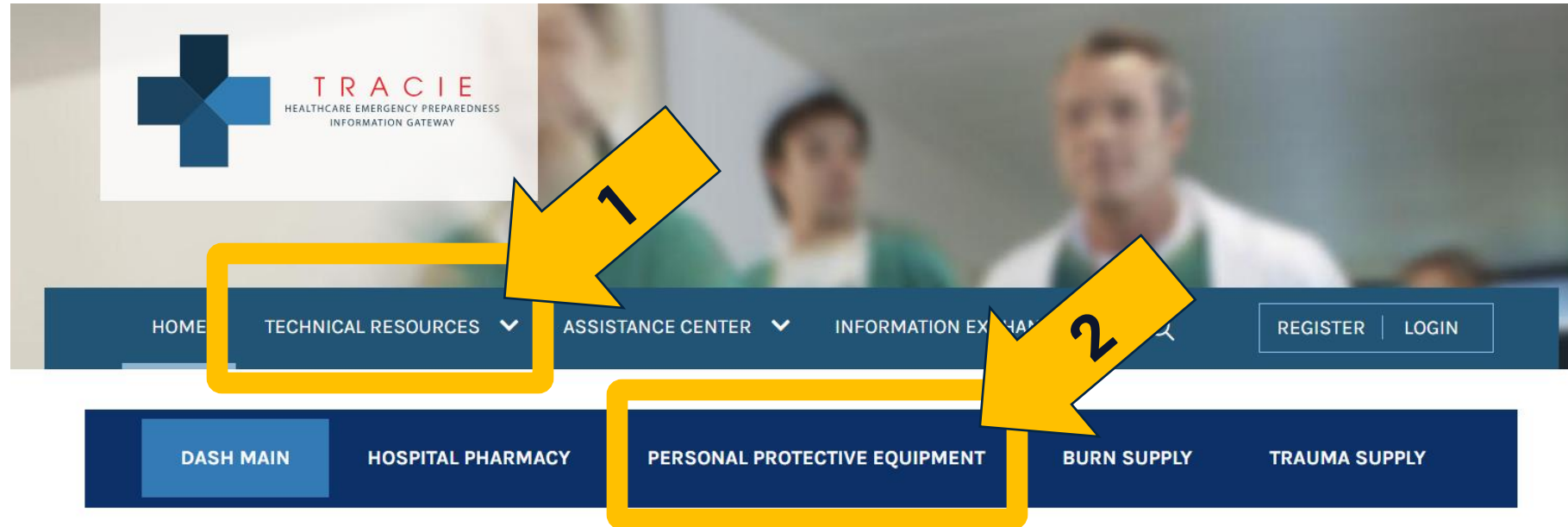
ASPR

The Administration for
Strategic
Preparedness and
Response

TRACIE

The Technical
Resources, Assistance
Center, and
Information Exchange

The screenshot shows the ASPR TRACIE website homepage. At the top, there is a blue header with the HHS.gov logo on the left and "U.S. Department of Health & Human Services" on the right. Below the header is a large banner image featuring a group of healthcare professionals. Overlaid on the left side of the banner is the TRACIE logo, which consists of a blue cross icon and the text "TRACIE HEALTHCARE EMERGENCY PREPAREDNESS INFORMATION GATEWAY". Below the banner is a dark blue navigation bar with the following links: HOME, TECHNICAL RESOURCES (with a dropdown arrow), ASSISTANCE CENTER (with a dropdown arrow), INFORMATION EXCHANGE (with a dropdown arrow), a search icon, and buttons for REGISTER and LOGIN. The main content area has a light gray background. On the left, the text "WELCOME TO ASPR TRACIE" is displayed in large, bold, dark blue letters. Below this, a paragraph states: "Brought to you by HHS ASPR, the Technical Resources, Assistance Center, and Information Exchange (TRACIE) was created to meet the information and technical assistance needs of regional ASPR staff, healthcare coalitions, healthcare entities, healthcare providers, emergency managers, public health practitioners, and others working in disaster medicine, healthcare system preparedness, and public health emergency preparedness." On the right side of the main content area, there is a graphic titled "ASPR TRACIE Through the Years" with a "Share" button. The graphic features a grid of colorful hexagons, each containing a logo for a different organization or entity, including IHS, NACCHO, Emergency Management, VHA, ASTHO, EMS, CDC, Joint Commission, Professional Organizations, DoD, and others. A large red play button icon is centered over the grid. At the bottom of the graphic, it says "Watch on YouTube".



Welcome to the Disaster Available Supplies in Hospitals (DASH) Tool

Disaster Available Supplies in Hospitals (DASH) is an interactive tool designed by ASPR TRACIE, with support from Healthcare Ready, that can help hospital emergency planners and supply chain staff estimate supplies that may need to be immediately available during various mass casualty incidents (MCI) and infectious disease emergencies based on hospital characteristics. The DASH Tool recommends average par levels for specific supplies that acute care hospitals may need to have on hand to respond to a disaster in their community until resupplied. Recommendations are based on user inputs about the size of the hospital, risks in the community, regional role/designation of the hospital, and other factors.

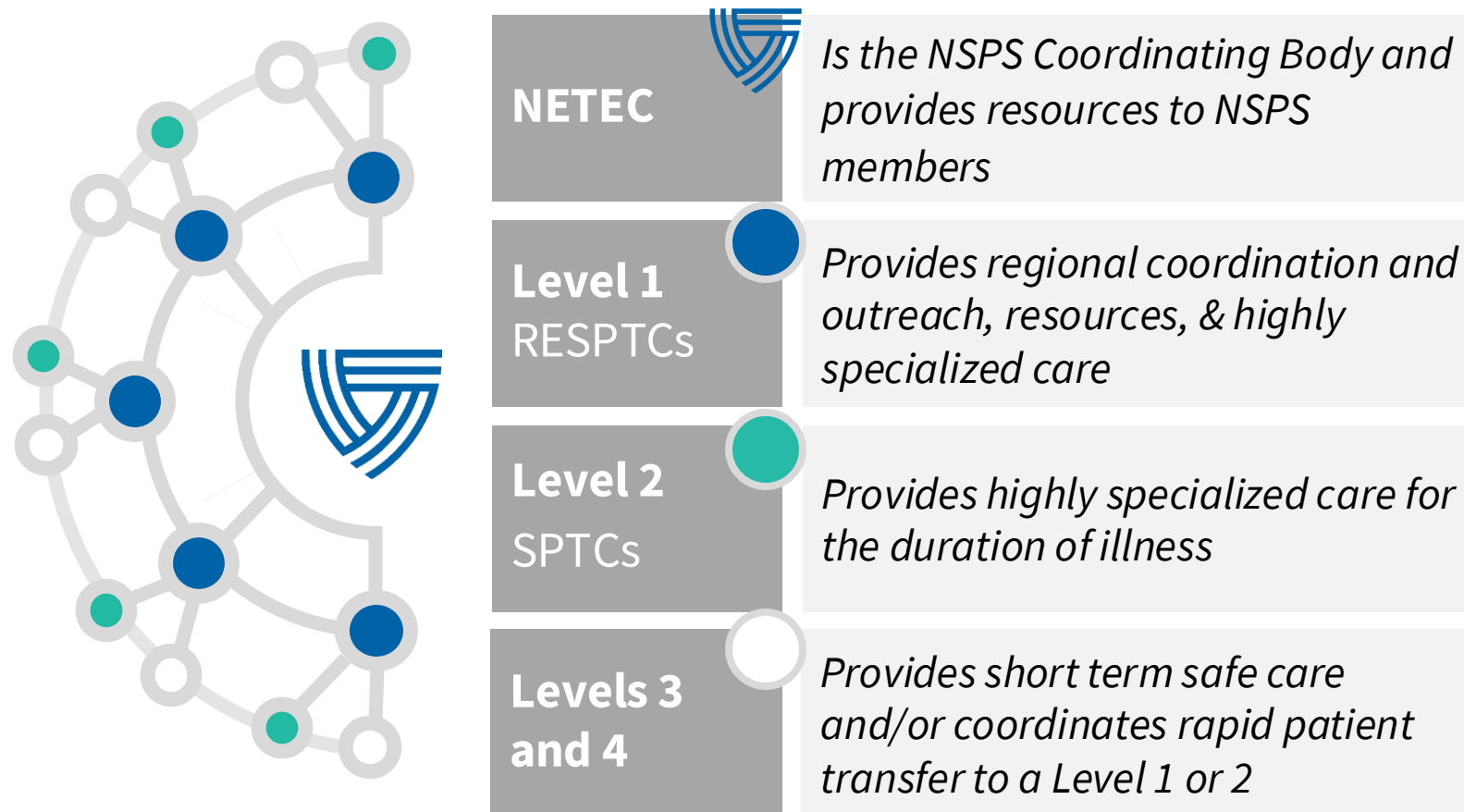
The DASH Tool is comprised of several modules which, taken together, can provide hospitals a holistic view of the supplies needed to address various types of incidents. Each module also incorporates pediatric sizes and specific medication needs as appropriate to the incident. Most users will elect to complete one module or a segment of the module per sitting as inputs cannot be saved in the tool. Please read the instructions and refer to them as you complete each module.

➡ DASH PPE Tool

- Intended as a starting point to guide minimum quantities to have on hand to respond to a special pathogen event or a pandemic.
- Not intended for routine PPE use estimates.
- Customizable guidance based on the types of PPE, the number of staff members, and the duration of care.
- No information is gathered or maintained by ASPR/TRACIE; remember to download and save your work.
- The PPE tool does not include important IPC items, such as hand sanitizer, disinfectant wipes, or PPE items for sterile procedures that may be needed.

Components of the NSPS

The NSPS is a **hub-and-spoke model** where ‘hubs’ (Level 1s) provide supporting centralized services to the ‘spokes’ within their domains (Level 2-4s)



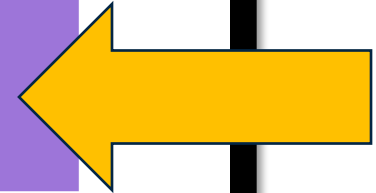
EMS and public health connects facilities throughout the NSPS.

Welcome to the DASH PPE Module:

Go to Viral Hemorrhagic Fever

Go to Special Respiratory Illness

Go to Pandemic



NSPS Level 2 Scenarios

NSPS Level 2 Facility: Viral Hemorrhagic Fever Scenario



Your organization is caring for 1 adult patient who tested positive for Lassa Fever after traveling to Sierra Leone. Patient was bitten by a rat, and their current symptoms include headache, vomiting, fever, and fatigue.

Capabilities	Level 1	Level 2	Level 3
Care Duration	Duration of illness	Duration of illness	12-36 Hours
Capacity for VHF, airborne	2 VHF 10 airborne	1-2 VHF 4 airborne	1+ isolation space
PPE Supply	2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	1-2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	3 VHF cases for 12-36 hours (before resupply)
Exercises	Quarterly	At least twice annually	At least once annually for mystery patient exercise
PPE Training	Quarterly	At least 2x annually	At least 1x annually
Skills Training	Quarterly	At least annually	--
Lab Testing Ability	Clinical lab testing	Clinical lab testing	Point-of-care onsite clinical lab testing



Let's determine how much PPE we need using the dash tool!

<https://asprtracie.hhs.gov/dash-tool/ppe/>

Viral Hemorrhagic Fever Predictor

Respond to the questions to the right about your hospital's characteristics and the types of PPE most commonly used when managing a known or suspected viral hemorrhagic fever (VHF) patient. Please refer to the PPE Module Instructions for detailed directions.

1. Adjust the slider to the number of days of PPE use for which you are planning.

Recommendations:

- a. Regional Ebola and Other Special Pathogen Treatment Center (RESPTC) or State or Jurisdiction Special Pathogen Treatment Center (State Treatment Center) = 7
- b. Assessment Hospital = 4
- c. Frontline Hospital = 2

2. Enter the number of isolation rooms you plan to staff at one time. Recommendations:

- a. RESPTC = 2
- b. State Treatment Center, Assessment Hospital, or Frontline Hospital = 1

3. Select whether your hospital primarily uses disposable gowns or coveralls.

4. Select whether your hospital primarily uses PAPRs or N95s for VHF patient care.

- a. If you selected PAPRs, select yes if the associated hoods, tubing, and filters are single use only or no if they are not.
- b. If you selected PAPRs, enter the number of PAPR filters per unit.

5. Click on the forward arrow in the bottom right hand corner to proceed to the next screen.

For how many days of PPE are you planning?

How many isolation rooms are you capable of staffing at one time?

Does the hospital primarily use disposable gowns or coveralls?

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

If you selected PAPR, are the following 3 components single use only?

Hoods?

Tubing?

Filters?

How many PAPR filters per unit?

NSPS Level 2 Facility: Viral Hemorrhagic Fever Scenario



Viral Hemorrhagic Fever Staffing

Hospitals CAN modify variables on this page

To view Staffing Assumptions, hover over the center of the Input Box Titles

Review the assumptions and change values in the input boxes as needed to be consistent with your hospital's staffing plan.

The values in the staffing table should reflect the number of room entries per shift for each staff type per room, with the exception of donning/doffing observers who remain outside the patient room.

Click on the forward arrow to proceed to the next screen.

Edit the # of Staff in patient room below

Nursing Staff

Physician/Advanced Practice Provider Staff

Donning / Doffing Observer Staff (Outside Room)

Environmental Services Staff

Lab Tech Staff

Other Staff

Edit the # of room entries below

Nursing Room Entries

Physician/APP Room Entries

Donning / Doffing Observations (Outside Room)

Environmental Services Room Entries

Lab Tech Room Entries

Other Room Entries

Staff	# of Staff in patient Room at One Time	# of Room Entries per 12 Hour Shift	PPE Needed per 2 Shifts or 1 Day
Nursing	1	4	8
Physician/Advanced Practice Provider	1	1	2
Donning/Doffing Observer	1	4	8
Environmental Services	0	0	0
Lab Tech	1	1	2
Other	1	1	2

<

>

NSPS Level 2 Facility: Viral Hemorrhagic Fever Scenario



PPE Assumptions

VHF PPE Consumptions per Shift Screen

Hospitals CANNOT modify variables on this page

Review the VHF PPE Consumption per Shift

- The quantity of each PPE item per shift may vary based on multiple factors, including patient acuity, length of shift, breaks, etc. The staffing composition and types of PPE assume management of an unstable patient to maximize the protection of hospital staff. Users may make fewer room entries and omit certain items of PPE (e.g., apron, knee high leg coverings) for stable patients who do not have bleeding, vomiting, or diarrhea.

Click on the backward arrow if you would like to go back to make adjustments to your staffing assumptions.

Click on the forward arrow to proceed to the next screen.

Staff	Glove - Extended	Glove - Inner	Boot or Knee High Shoe Cover	Apron - Disposable	Gown - Disposable, Impermeable	Coverall - Impermeable	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Head Cover - Fluid Impermeable (optional)	Face Shield
Physician/ Advanced Practice Provider	2	2	2	1	1	1	1	1	1	1	1	1	1	1
Other	2	2	2	0	1	0	1	1	1	1	1	1	1	1
Nursing	8	2	2	2	1	1	2	2	4	2	2	1	1	1
Lab Tech	2	2	2	1	1	1	1	1	1	1	1	1	1	1
Environmental Services	4	2	2	1	1	1	1	1	1	1	1	1	1	1
Donning/ Doffing Observer	2	2	2	0	1	0	0	0	0	0	0	1	1	1

NSPS Level 2 Facility: Viral Hemorrhagic Fever Scenario



PPE Assumptions

VHF PPE Consumptions per Shift Screen

- The type and quantity of PPE is based on certain items of PPE

Gloves:

- Assumes 3 outer glove changes by nursing staff, 1 outer glove change by environmental services staff, and 0 outer glove changes per room entry by other provider types due to shorter durations in the care environment.
- Gloves should have extended cuffs.
- Some hospitals plan to don 3 pairs of gloves as part of their ensemble or don a third pair when performing specific tasks such as specimen collection or waste management. This is not included in calculations.
- If confirmed patients are cohorted, an increased number of glove changes may be required when moving between patients.

Boot Shoe Covers:

- Disposable boot/shoe covers used with gowns must extend at least to mid-calf and be impermeable.
- Dedicated boots or waterproof booties may be used in conjunction with coveralls.
- Booties must be able to tolerate abrasion from the floor.
- Reusable boots must have a decontamination process defined and followed.

Apron:

- Aprons should be disposable and impermeable.

Gown / Coveralls:

- Either a gown that passes ANSI/AAMI PB70 Level 4 requirements or coverall that passes ASTM F1671 (13.8 kPa) or ISO 16604 ≥ 14 kPa should be worn.
- The chosen item should be disposable and impermeable.
- For coveralls with a built in hood, the hood should be tucked in and not used.

PAPR / N95:

- Hospitals may choose to use N95 respirators or PAPRs (including controlled air purifying respirators [CAPRs]). DASH calculates the type of respiratory protection your hospital primarily uses.
- If using N95 respirators:
 - Splash protection is required (e.g., face shield) – one per room entry
 - Impermeable head covers are also required (e.g., surgical hood) – one per room entry.
- If using PAPRs:
 - PAPR blower units/systems may be reused post decontamination. Therefore, the quantity of PAPRs needed per shift and per day should be based on the number of persons who may be using a PAPR and the time needed to decontaminate and ensure these products are ready for use. Assumptions reflect 2 PAPRs for nurses as they are unable to “hand off” units when leaving/entering the room unless the entire hood/hose assembly is disposable.
 - Hospital policy for decontamination of the units should be considered when determining PAPR needs.
 - One PAPR will be needed for each staff member per shift who will be in direct contact with the patient. Hospitals should consider having 1.5 to 2 shifts worth of PAPR blower units/systems on hand to account for staff changeover and decontamination time.
 - PAPR battery maintenance and ensuring charged batteries are always available is another key consideration. Calculations include additional batteries to allow charging.
 - Follow manufacturer guidance to determine the need to replace/dispose of filters. Filters must have a HEPA component. Several manufacturers have added specific instructions for cleaning, disinfection, and decontamination after use with a known or suspected Ebola patient. Calculations assume the filter is being changed only when filtering capacity is reached (i.e., airflow falls below minimums) unless the user indicates that filters are single use.

Staff	Glove - Extended		Impermeable (optional)
Physician/Advanced Practice Provider	2		1
Other	2		1
Nursing	8		1
Lab Tech	2		1
Environmental			

NSPS Level 2 Facility: Viral Hemorrhagic Fever Scenario



Viral Hemorrhagic Fever Output

The Inputs below are from the initial assessment, and displayed here to allow you to see how changing values affects the final output.

For how many days of PPE are you planning?

How many isolation rooms are you capable of staffing at one time?

Does the hospital primarily use disposable gowns or hooded coveralls?

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

If you selected PAPRs, are the following 3 components single use only?

Hoods?

Tubing?

Filters?

How many filters per unit?

This screen displays your minimum recommended PPE supplies for management of a known or suspected VHF patient.

Click on the back arrow if you would like to make adjustments to your inputs.

Click on the Back to Index Page button to select a different special pathogen.

	Glove - Extended	Glove - Inner	Boot or Knee High Shoe Cover	Apron - Disposable	Gown - Disposable, Impermeable	Coverall - Impermeable	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Head Cover - Fluid Impermeable (opti..	Face Shield
Nursing	448	112	112	112	0	56	2	56	4	2	56	0	0	0
Physician/ Advanced Practice Provi..	28	28	28	14	0	14	1	7	1	1	7	0	0	0
Donning/ Doffing Observer	112	112	112	0	0	0	0	0	0	0	0	56	56	56
Environmental Services	0	0	0	0	0	0	0	0	0	1	0	0	0	0
Lab Tech	28	28	28	14	0	14	1	7	1	1	7	0	0	0
Other	28	28	28	0	0	0	1	7	1	1	7	0	0	0
Grand Total	644	308	308	140	0	84	5	77	7	6	77	56	56	56



Back to Index Page

NSPS Level 2 Facility: Novel Respiratory Pathogen Scenario



➤ Your organization is caring for 2 pediatric and 2 adult patients who tested positive for Middle East Respiratory Syndrome (MERS). Patients traveled in a group to Hajj and during the return trip back started experiencing shortness of breath, cough, and fever.

Capabilities	Level 1	Level 2	Level 3
Care Duration	Duration of illness	Duration of illness	12-36 Hours
Capacity for VHF, airborne	2 VHFs 10 airborne	1-2 VHFs 4 airborne	1+ isolation space
PPE Supply	2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	1-2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	3 VHF cases for 12-36 hours (before resupply)
Exercises	Quarterly	At least twice annually	At least once annually for mystery patient exercise
PPE Training	Quarterly	At least 2x annually	At least 1x annually
Skills Training	Quarterly	At least annually	--
Lab Testing Ability	Clinical lab testing	Clinical lab testing	Point-of-care onsite clinical lab testing

NSPS Level 2 Facility: Novel Respiratory Pathogen Scenario



Edit the # of Staff in patient room below

Nursing Staff

Physician/Advanced Practice Provider Staff

Environmental Staff

Lab Tech Staff

Other Staff

Edit the # of room entries below

Nursing: # of Room Entries

Physician/APP: # of Room Entries

Environmental: # of Room Entries

Lab Tech: # of Room Entries

Other: # of Room Entries

Review the assumptions and change values in the input boxes as needed to be consistent with your hospital's staffing plan.

The values in the staffing table should reflect the number of room entries per shift for each staff type per room.

Click on the forward arrow to proceed to the next screen.

Staff	# Staff in Patient Room	# of Room Entries per 12 Shift	PPE Needed per 2 Shifts or 1 Day
Nursing	1	4	8
Physician/Advanced Practice Provider	1	1	2
Environmental Services	0	0	0
Lab Tech	0	0	0
Other	0	1	0

Special Respiratory PPE Consumptions per Shift Screen

1. The
2. The sta

- Assumes 2 glove changes by nursing staff for each room entry and 0 glove changes per room entry by other provider types due to shorter durations in the care environment.
- If confirmed patients are cohorted, account for an increased number of glove changes when moving between patients.

* Shoe covers are not included in CDC or WHO guidance but OSHA guidance for MERS recommends shoe or boot covers that extend high enough to cover the lower leg.

- CDC specifies “disposable” for MERS, “standard isolation” for SARS, and “clean” gown for avian influenza. OSHA states “fluid-resistant” gown.
- Because agents and recommendations are mixed, hospitals should decide on an appropriate level of isolation gown in conjunction with infection prevention practitioners. For simplicity, a disposable, fluid-resistant gown is likely preferred.
- For many special respiratory pathogens, hospitals may opt to use fluid-resistant reusable/laundryable gowns.

* Hospitals may choose to use N95 respirators or PAPRs (including CAPRs). DASH calculates the type of respiratory protection your hospital primarily uses.

- If using N95 respirators:
 - Disposal of the N95 at exit from the room is assumed.
 - Splash protection for the eyes is also needed (e.g., face shield). We assume re-use by the provider for the duration of the shift (1/shift)
 - Head covers are not included in CDC or WHO guidance but included in OSHA guidance (e.g., surgical hood). These must be disposed each room entry.

- If using PAPRs:
 - PAPR blower units/systems may be reused post decontamination. Therefore, the quantity of PAPRs needed per shift and per day should be based on the number of persons who may be using a PAPR and the time needed to decontaminate and ensure these products are ready for use. Assumptions reflect 2 PAPRs for nurses as they are unable to “hand off” units when leaving/entering the room unless the entire hood/hose assembly is disposable.
 - Hospital policy for decontamination of the units should be considered when determining PAPR needs.
 - One PAPR will be needed for each staff member per shift who will be in direct contact with the patient. Hospitals should consider having 1.5 to 2 shifts worth of PAPR blower units/systems on hand to account for staff changeover and decontamination time.
 - PAPR battery maintenance and ensuring charged batteries are always available is another key consideration. Calculations include additional batteries to allow charging.
 - Follow manufacturer guidance to determine the need to replace/dispose of filters. Filters must have a HEPA component. Several manufacturers have added specific instructions for cleaning, disinfection, and decontamination. Calculations assume the filter is being changed only when filtering capacity is reached (i.e., airflow falls below minimums) unless the user indicates that filters are single use.

techniques, etc.
adjustments for

Staff	<ul style="list-style-type: none"> • Because agents and recommendations are mixed, hospitals should decide on an appropriate level of isolation gown in conjunction with infection prevention practitioners. For simplicity, a disposable, fluid-resistant gown is likely preferred. • For many special respiratory pathogens, hospitals may opt to use fluid-resistant reusable/laundryable gowns. <p>PAPR/N95:</p> <ul style="list-style-type: none"> • Hospitals may choose to use N95 respirators or PAPRs (including CAPRs). DASH calculates the type of respiratory protection your hospital primarily uses. • If using N95 respirators: <ul style="list-style-type: none"> • Disposal of the N95 at exit from the room is assumed. • Splash protection for the eyes is also needed (e.g., face shield). We assume re-use by the provider for the duration of the shift (1/shift) • Head covers are not included in CDC or WHO guidance but included in OSHA guidance (e.g., surgical hood). These must be disposed each room entry. • If using PAPRs: <ul style="list-style-type: none"> • PAPR blower units/systems may be reused post decontamination. Therefore, the quantity of PAPRs needed per shift and per day should be based on the number of persons who may be using a PAPR and the time needed to decontaminate and ensure these products are ready for use. Assumptions reflect 2 PAPRs for nurses as they are unable to “hand off” units when leaving/entering the room unless the entire hood/hose assembly is disposable. • Hospital policy for decontamination of the units should be considered when determining PAPR needs. • One PAPR will be needed for each staff member per shift who will be in direct contact with the patient. Hospitals should consider having 1.5 to 2 shifts worth of PAPR blower units/systems on hand to account for staff changeover and decontamination time. • PAPR battery maintenance and ensuring charged batteries are always available is another key consideration. Calculations include additional batteries to allow charging. • Follow manufacturer guidance to determine the need to replace/dispose of filters. Filters must have a HEPA component. Several manufacturers have added specific instructions for cleaning, disinfection, and decontamination. Calculations assume the filter is being changed only when filtering capacity is reached (i.e., airflow falls below minimums) unless the user indicates that filters are single use. 	Face Shield
Nursing		1
Physician/ Advanced Practice Provider		1
Environmental Services		1

NSPS Level 2 Facility: Novel Respiratory Pathogen Scenario



Special Respiratory Illness Output

The inputs displayed below are from your Special Respiratory Illness Predictor screen and can be adjusted to show how changing values affects final outputs.

For how many days of PPE are you planning?

How many isolation rooms are you capable of staffing at one time?

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

If PAPR was selected above, are the following PAPR components single use only?

Hoods?

Tubing?

Filters?

How many filters per unit?

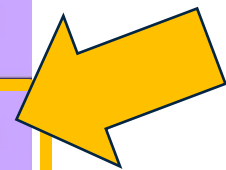
This screen displays your minimum recommended PPE supplies for management of a patient with confirmed or suspected special respiratory illness based on the number of rooms you plan to staff at one time.

Adjust the slider to select a different number of total days of PPE consumption, if desired.

Click on the back arrow if you would like to make adjustments to your inputs.

Click on the Back to Index Page button to select a different special pathogen.

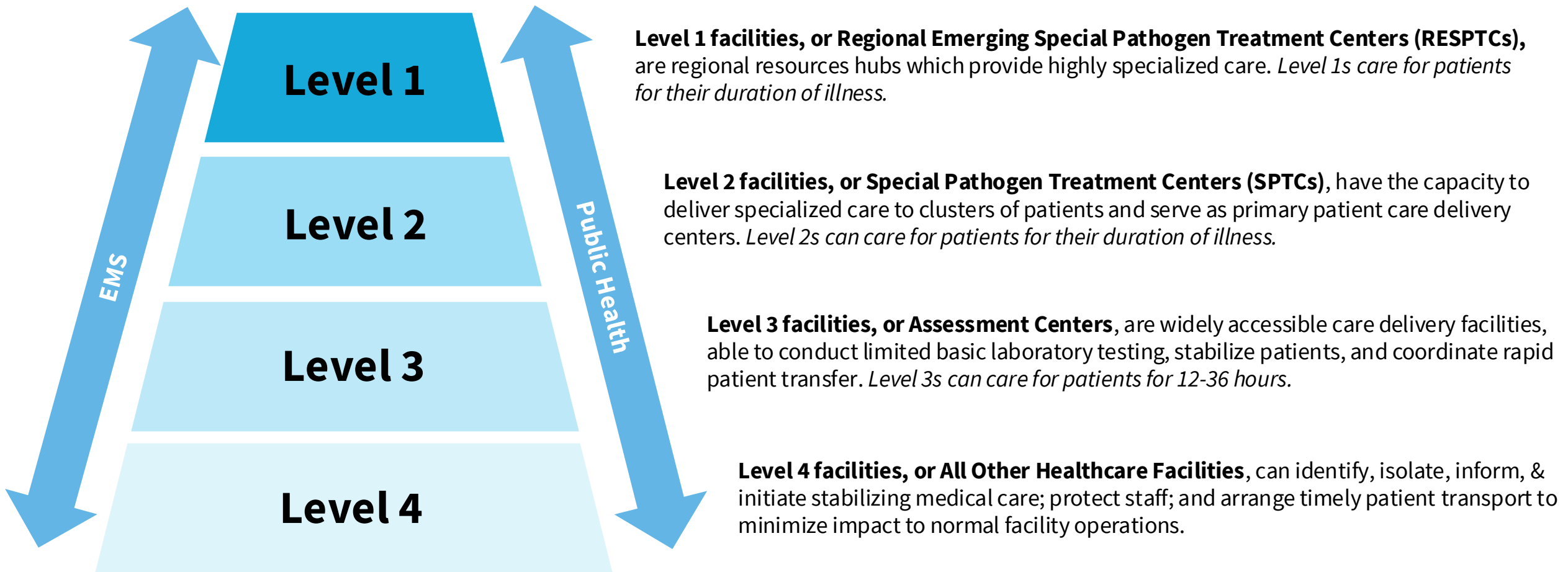
	Glove - Long Cuff	Knee High Shoe Cover (optional)	Gown - Disposable, Fluid-Resistant	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Face Shield	Head Cover - Fluid Impermeable (optional)
Nursing	1344	448	224	2	224	4	2	224	0	0	0
Physician/ Advanced Practice Provider	112	112	56	1	28	1	1	28	0	0	0
Environmental Services	0	0	0	0	0	0	1	0	0	0	0
Lab Tech	0	0	0	0	0	0	1	0	0	0	0
Other	0	0	0	0	0	0	1	0	0	0	0
Grand Total	1456	560	280	3	252	5	6	252	0	0	0



NSPS Level 3 Scenarios

Brooke Henriksen, BSN, RN, CCRN

The Tiered System of Care



Additional partners, such as EMS and public health, are essential for the coordination of the System

High-Level Capabilities Comparison

The table is intended to provide a high-level sample of quantifiable differences across levels and does not include all minimum capabilities.

Capabilities	Level 1	Level 2	Level 3
Care Duration	Duration of illness	Duration of illness	12-36 Hours
Capacity for VHF, airborne	2 VHFs 10 airborne	1-2 VHFs 4 airborne	1+ isolation space
PPE Supply	2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	1-2 VHF cases for at least 7 days onsite (with plans to support 21 days of care)	3 VHF cases for 12-36 hours (before resupply)
Exercises	Quarterly	At least twice annually	At least once annually for mystery patient exercise
PPE Training	Quarterly	At least 2x annually	At least 1x annually
Skills Training	Quarterly	At least annually	--
Lab Testing Ability	Clinical lab testing	Clinical lab testing	Point-of-care onsite clinical lab testing



➔ 2 patients present to your L3 emergency department. They are from the same family. Each has a fever, cough, and fatigue. They state they have recently returned from a vacation to Cambodia.

**How much PPE would you need to care
for these patients for 24 hours?**

<https://asprtracie.hhs.gov/dash-tool>

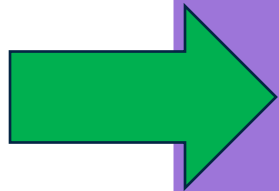


Welcome to the DASH PPE Module:

Go to Viral Hemorrhagic Fever

Go to Special Respiratory Illness

Go to Pandemic



NSPS Level 3 Facility: Novel Respiratory Pathogen Scenario



Respond to the questions to the right about your hospital's characteristics and the types of PPE most commonly used when managing a patient with a confirmed or suspected special respiratory illness. Please refer to the PPE Module Instructions for detailed directions.

1. Adjust the slider to the number of days of PPE use for which you are planning. Recommendations:

- a. Comprehensive inpatient care = 14
- b. Inpatient care to stable patients = 7
- c. Screening only = 4

2. Enter the number of isolation rooms you plan to staff at one time. Recommendations:

- a. Comprehensive patient care = 5
- b. All other hospitals = value appropriate to resources and plans

3. Select whether your hospital primarily uses PAPRs or N95s for care of a special respiratory illness patient.

- a. If you selected PAPRs, select yes if the associated hoods, tubing,

For how many days of PPE are you planning?

2

How many isolation rooms are you capable of staffing at one time?

1

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

N95

PAPR

N95

only?

Hoods?

No

Tubing?

No

Filters?

No

NSPS Level 3 Facility: Novel Respiratory Pathogen Scenario



Begin by selecting your pathogen of interest on the Index page below. You will then answer questions about your hospital's characteristics. Once your outputs are displayed, you can return to the Index page to select a different pathogen.

Special Respiratory Illness Staffing Screen

To view Calculation Assumptions, hover over the center of the Input Box Titles

Hospitals CAN modify variables on this page

Edit the # of Staff in patient room below

Nursing Staff
1

Physician/Advanced Practice Provider Staff
1

Environmental Staff
0

Lab Tech Staff
0

Other Staff
0

Edit the # of room entries below

Nursing: # of Room Entries
4

Physician/APP: # of Room Entries
1

Environmental: # of Room Entries
1

Lab Tech: # of Room Entries
1

Other: # of Room Entries
1

Review the assumptions and change values in the input boxes as needed to be consistent with your hospital's staffing plan.

The values in the staffing table should reflect the number of room entries per shift for each staff type per room. Click on the forward arrow to proceed to the next screen.

Staff	# Staff in Patient Room	# of Room Entries per 12 Shift	PPE Needed per 2 Shifts or 1 Day
Nursing	1	4	8
Physician/Advanced Practice Provider	1	1	2
Environmental Services	0	1	0
Lab Tech	0	1	0
Other	0	1	0



Fill out all information



PPE Assumptions

Special Respiratory PPE Consumptions per Shift Screen

Hospitals CANNOT modify variables on this page

- 1. The quantity of each PPE item per shift may vary based on multiple factors, including patient acuity, length of shift, staffing pattern, monitoring techniques, etc.
- 2. The staffing composition and types of PPE assume management of an unstable patient to maximize the protection of hospital staff. Users may make adjustments for stable patients.

Click on the backward arrow if you would like to go back to make adjustments to your staffing assumptions.
Click on the forward arrow to proceed to the next screen.

Staff	Glove- Long Cuff	Knee High Shoe Cover (optional)	Gown- Disposable, Fluid-Resistant	PAPR	PAPR Battery	PAPR Filter	PAPR Hood	PAPR Tubing	N95	Head Cover- Fluid Impermeable (optional)	Face Shield
Nursing	6	2	1	2	4	4	2	2	1	1	1
Physician/ Advanced Practice Provider	2	2	1	1	1	1	1	1	1	1	1
Environmental Services	2	2	1	1	1	1	1	1	1	1	1
Lab Tech	2	2	1	1	1	1	1	1	1	1	1
Other	2	2	1	1	1	1	1	1	1	1	1



Special Respiratory Illness Output

The inputs displayed below are from your Special Respiratory Illness Predictor screen and can be adjusted to show how changing values affects final outputs.

For how many days of PPE are you planning?

2

How many isolation rooms are you capable of staffing at one time?

1

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

N95

If PAPR was selected above, are the following PAPR components single use only?

Hoods?

No

Tubing?

No

Filters?

No

How many filters per unit?

1

This screen displays your minimum recommended PPE supplies for management of a patient with confirmed or suspected special respiratory illness based on the number of rooms you plan to staff at one time.

Adjust the slider to select a different number of total days of PPE consumption, if desired.

Click on the back arrow if you would like to make adjustments to your inputs.

Click on the Back to Index Page button to select a different special pathogen.

	Glove - Long Cuff	Knee High Shoe Cover (optional)	Gown - Disposable, Fluid-Resistant	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Face Shield	Head Cover - Fluid Impermeable (optional)
Nursing	96	32	16	0	0	0	0	0	16	16	16
Physician/ Advanced Practice Provider	8	8	4	0	0	0	0	0	4	4	4
Environmental Services	0	0	0	0	0	0	0	0	0	0	0
Lab Tech	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0
Grand Total	104	40	20	0	0	0	0	0	20	20	20



Back to Index Page



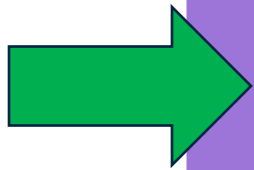
➔ 1 patient presents to your L3 emergency department. They have a fever, nausea, malaise and joint pain. The patient reports recent travel abroad to a country with a known Marburg Virus Disease (MVD) outbreak where they were caring for patients diagnosed with MVD.

**How much PPE would you need to care
for these patients for 36 hours?**

<https://asprtracie.hhs.gov/dash-tool>



Welcome to the DASH PPE Module:



Go to Viral Hemorrhagic Fever

Go to Special Respiratory Illness

Go to Pandemic

NSPS Level 3 Facility: Viral Hemorrhagic Fever



Respond to the questions to the right about your hospital's characteristics and the types of PPE most commonly used when managing a known or suspected viral hemorrhagic fever (VHF) patient. Please refer to the PPE Module Instructions for detailed directions.

1. Adjust the slider to the number of days of PPE use for which you are planning.

Recommendations:

a. Regional Ebola and Other Special Pathogen Treatment Center (RESPTC) or State or Jurisdiction Special Pathogen Treatment Center (State Treatment Center) = 7

b. Assessment Hospital = 4

c. Frontline Hospital = 2

2. Enter the number of isolation rooms you plan to staff at one time. Recommendations:

a. RESPTC = 2

b. State Treatment Center, Assessment Hospital, or Frontline Hospital = 1

3. Select whether your hospital primarily uses disposable gowns or coveralls.

4. Select whether your hospital primarily uses PAPRs or N95s for VHF patient care.

a. If you selected PAPRs, select yes if the associated hoods, tubing, and filters are single use only or no if they are not.

b. If you selected PAPRs, enter the number of PAPR filters per unit.

5. Click on the forward arrow in the bottom right hand corner to proceed to the next screen.

For how many days of PPE are you planning?

How many isolation rooms are you capable of staffing at one time?

Does the hospital primarily use disposable gowns or coveralls?

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

If you selected PAPR, are the following 3 components single use only?

Hoods?

Tubing?

Filters?

How many PAPR filters per unit?

NSPS Level 3 Facility: Viral Hemorrhagic Fever



Viral Hemorrhagic Fever Staffing

Hospitals CAN modify variables on this page

To view Staffing Assumptions, hover over the center of the Input Box Titles

Review the assumptions and change values in the input boxes as needed to be consistent with your hospital's staffing plan.

Edit the # of Staff in patient room below

The values in the staffing table should reflect the number of room entries per shift for each staff type per room, with the exception of donning/doffing observers who remain outside the patient room.

Click on the forward arrow to proceed to the next screen.

Nursing Staff

1

Physician/Advanced Practice Provider Staff

1

Donning / Doffing Observer Staff (Outside Room)

1

Environmental Services Staff

1

Lab Tech Staff

1

Other Staff

1

Edit the # of room entries below

Nursing Room Entries

3

Physician/APP Room Entries

1

Donning / Doffing Observations (Outside Room)

3

Environmental Services Room Entries

1

Lab Tech Room Entries

1

Other Room Entries

1

Staff	# of Staff in patient Room at One Time	# of Room Entries per 12 Hour Shift	PPE Needed per 2 Shifts or 1 Day
Nursing	1	3	6
Physician/Advanced Practice Provider	1	1	2
Donning/Doffing Observer	1	3	6
Environmental Services	1	1	2
Lab Tech	1	1	2
Other	1	1	2





PPE Assumptions

VHF PPE Consumptions per Shift Screen

Hospitals CANNOT modify variables on this page

Review the VHF PPE Consumption per Shift

- The quantity of each PPE item per shift may vary based on multiple factors, including patient acuity, length of shift, breaks, etc. The staffing composition and types of PPE assume management of an unstable patient to maximize the protection of hospital staff. Users may make fewer room entries and omit certain items of PPE (e.g., apron, knee high leg coverings) for stable patients who do not have bleeding, vomiting, or diarrhea.

Click on the backward arrow if you would like to go back to make adjustments to your staffing assumptions.

Click on the forward arrow to proceed to the next screen.

Staff	Glove - Extended	Glove - Inner	Boot or Knee High Shoe Cover	Apron - Disposable	Gown - Disposable, Impermeable	Coverall - Impermeable	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Head Cover - Fluid Impermeable (optional)	Face Shield
Physician/ Advanced Practice Provider	2	2	2	1	1	1	1	1	1	1	1	1	1	1
Other	2	2	2	0	1	0	1	1	1	1	1	1	1	1
Nursing	8	2	2	2	1	1	2	2	4	2	2	1	1	1
Lab Tech	2	2	2	1	1	1	1	1	1	1	1	1	1	1
Environmental Services	4	2	2	1	1	1	1	1	1	1	1	1	1	1
Donning/ Doffing Observer	2	2	2	0	1	0	0	0	0	0	0	1	1	1



NSPS Level 3 Facility: Viral Hemorrhagic Fever



Viral Hemorrhagic Fever Output

The Inputs below are from the initial assesment, and displayed here to allow you to see how changing values affects the final output.

For how many days of PPE are you planning?

How many isolation rooms are you capable of staffing at one time?

Does the hospital primarily use disposable gowns or hooded coveralls?

Does the hospital primarily plan to use PAPR or N95 respirators for providers?

If you selected PAPRs, are the following 3 components single use only?

Hoods?

Tubing?

Filters?

How many filters per unit?

This screen displays your minimum recommended PPE supplies for management of a known or suspected VHF patient.

Click on the back arrow if you would like to make adjustments to your inputs.

Click on the Back to Index Page button to select a different special pathogen.

	Glove - Extended	Glove - Inner	Boot or Knee High Shoe Cover	Apron - Disposable	Gown - Disposable, Impermeable	Coverall - Impermeable	PAPR	PAPR Hood	PAPR Battery	PAPR Filter	PAPR Tubing	N95	Head Cover - Fluid Impermeable (opti..	Face Shield
Nursing	48	12	12	12	6	0	0	0	0	0	0	6	6	6
Physician/ Advanced Practice Provi..	4	4	4	2	2	0	0	0	0	0	0	2	2	2
Donning/ Doffing Observer	12	12	12	0	6	0	0	0	0	0	0	6	6	6
Environmental Services	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Lab Tech	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	64	28	28	14	14	0	0	0	0	0	0	14	14	14



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Fill out all information

Special pathogens don't come with instructions, but your PPE should.


Know Your PPE breaks down gear selection into clearly defined ensembles for:

- Novel respiratory pathogens (NRPs)
- Dry and Suspect viral hemorrhagic fevers (VHFs)
- Wet or confirmed VHFs

Each section outlines what to wear, when, and why so you can train with precision and deploy with confidence.

Know Your PPE

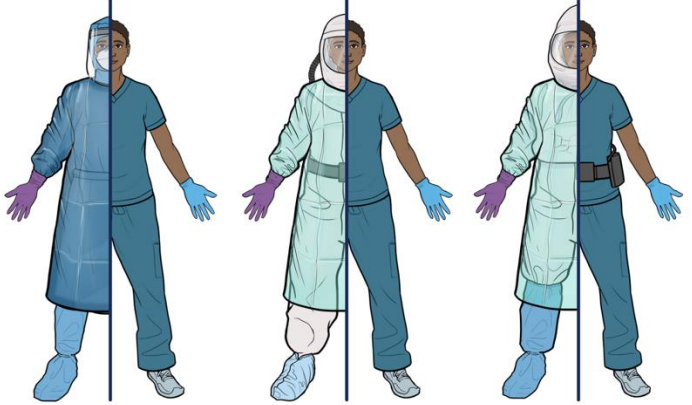
Ensembles: VHF Wet



[Head, neck, eye](#)[Masks & respirators](#)[Gloves](#)[Body/torso protection](#)[Shoe and boot covers](#)[Ensembles](#)[Appendix](#)

WET
OR CONFIRMED
Viral Hemorrhagic Fever (VHF)

For Wet VHF choose:
Wet/Confirmed VHF choose an ensemble that provides total body coverage and respiratory protection. Outer layers¹ should be fluid-impervious whenever possible, with two layers of gloves, the outer layer with extended cuffs.



- NIOSH Approved N95[®] or elastomeric respirator with a fluid-resistant head and neck cover
- Full face shield
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe or boot covers
- 2 pair of gloves, outer are extended cuff

- PAPR (external motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe/boot covers
- 2 pair of gloves, outer are extended cuff

- PAPR (internal motor)
- ANSI/AAMI PB70 Level 4 gown or ASTM F1670/F1671 coverall
- Shoe boot covers
- 2 pair gloves, outer are extended cuff

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Questions and Answers

BIOCONTAINMENT
UNIT

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